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Short Studies of North American COLEOPTERA. (No. 2)

BY JOHN L. LECONTE, M. D.\*

I have here included descriptions of nearly all the the important or interesting species which remained undescribed in my collection, except those which require special memoirs or monographs for their proper elucidation. Other species belonging to families to which he has given special attention are comprised in a foregoing paper by Dr. Horn, so that these two papers may be considered to exhaust the miscellaneous material now in our possession.

I am indebted to the kindness and facile pencil of Dr. Horn for his excellent illustration of *Amphichroum maculatum*.

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\* After the completion of the second edition of the Classification, Dr. LeConte employed his moments of better health in arranging some portions of his cabinet and writing descriptions of such new species as seemed worthy of separate publication. He was in his study when the chill came on which rendered him comatose and ended in death. After his burial I visited his study and found evidences of very recent work, the manuscript, the open inkstand, the pen and the specimens were as if he had just left them. The manuscript was fragmentary, and much of it incomplete, requiring on my part a thorough study of the material for the completion of the tables and the description of the new species. I can only regret that the publication has from necessity met with delay, which is partially compensated by the recognition of a certain amount of synonymy which has been avoided. The two years just passed will always be recalled with profound sorrow, it having been my privilege with my friend Sallé to prepare for publication a posthumous memoir by Baron Chaudoir in 1882, and now alone to present the evidences of the unflagging zeal of my lamented friend and associate, Dr. John L. LeConte.—(Geo. H. Horn)

**CYCHRUS** Fab.

Mr. L. E. Ricksecker, who has diligently collected in the vicinity of Spokane Falls, Washington Territory, has kindly communicated to me two forms of this interesting genus, which seem to be entitled to specific recognition. Mr. Ricksecker has been singularly fortunate in his Cychrine discoveries, and it is to him that we owe our knowledge of the occurrence of the group (*Sphæroderus*), with front tarsi of ♂ strongly dilated, west of the Rocky Mountains, in *C. relictus* Horn.

**C. (*Sphæroderus*) *regularis*.**—Black, not very shining, of the same form and sculpture as *C. relictus*, except on the elytra, which have 12 perfectly regular and entire impressed punctured striæ; the 13th is composed of separate punctures confused with the marginal ones; the interspaces are somewhat wider than the striæ, the 4th and 8th are interrupted by only 3 or 4 punctures. Length 16 mm.; .65 inch.

♂. Front tarsi with joints 1-3 dilated, as broad as their respective lengths, densely papillose beneath.

One pair found in the Cœur d'Aléne Mountains, Idaho, by Mr. Ricksecker, and kindly communicated to me.

**C. *Rickseckeri*.**—Black, head and prothorax densely strongly punctured, the latter slightly wider than long, narrowed behind but scarcely sinuate on the sides; hind angles obtuse, dorsal channel and posterior transverse impression well marked; basal impressions wanting. Elytra nearly perpendicularly declivous behind, closely rugose and densely covered with shining granules, which exhibit in places a slight tendency to form regular rows. Length 17.5 mm.; .7 inch.

Montana, one specimen, Mr. Ricksecker. This species is intermediate between *C. tuberculatus* and *C. Hemphillii*.

**PACHETELES** Chaud.

**P. *parca*.**—Slender, elongate, piceous, under surface and legs rufo-piceous. Head and prothorax finely rugose, with scattered distinct punctures. Prothorax as long as wide, dorsal line entire, sides strongly margined and reflexed, broadly rounded, sub-sinuate near the base, apex slightly emarginate, front angles somewhat acute, hind angles rectangular, base nearly straight. Elytra obtusely striate, interspaces moderately convex, alutaceous, each with a row of well marked distant punctures. Antennæ stout, extending to the base of the prothorax; front thighs armed with a large acute tooth. Length 14 mm.

Arizona, one specimen. Resembles the description given by Chaudoir of some of the large Tropical species, but seems to differ from all of them by the punctures of the head and thorax, and by the interspaces of the elytra each being furnished with punctures.

**LEBIA** Latr.

**L. *punctifera*.**—Pale piceous, glabrous, punctured above except on the front and middle of the head; under surface smooth. Prothorax with the basal lobe feeble, sides broadly flattened and rounded, hind angles nearly rectangular. Ely-

tra a little wider than the thorax, striæ sharply impressed, not punctured, interspaces flat, sparsely punctured, 3d stria with two dorsal punctures. Length 8 mm.

Arizona, one specimen. Very similar in appearance to *Plochionus pallens*, but quite distinct by the punctured upper surface. Seems to belong to Chaudoir's genus *Lionedya*.

### AMPHICHROUM Kraatz.

**A. maculatum** n. sp.—Beneath piceous, above testaceous. Head piceous, coarsely punctate. Antennæ piceous, three basal joints testaceous. Thorax oval, slightly transverse, apex and base nearly equal, sides arcuate, margin slightly reflexed, surface rather coarsely punctate, sparsely pubescent. Elytra testaceous, an oval, oblique piceous spot on each, coarsely punctured, sparsely pubescent. Abdomen piceous, more closely and much more finely punctured than the elytra. Length 6 mm.

*Male*.—Anterior femora stout, strongly angulate beneath and with a small tooth, the tibiæ arcuate and thickened at tip; anterior tarsi dilated the first joint more broadly and longer than the next three joints together. Middle femora more slender, the tibiæ arcuate, broader toward the tip and with an emargination on the inner side near the tip which is bordered with short fimbriæ. Posterior femora more slender, the tibiæ straight with a slight emargination on the inner side near the tip. Prosternum on each side with a group of coarse punctures bearing short erect spines.

*Female*.—The femora are more slender than in the male and the anterior is not angulate. The tibiæ are straight and slender, not emarginate nor thickened. The anterior tarsi are slightly dilated, the first joint not as long as the next three together. Prosternum not spinous.

Occurs in the high Sierras of California, Big Trees, Calaveras Co. (Carl Fehr.) and western Nevada (Morrison).

Since the publication of the figure\* of the male of this species (Tr. Am. Ent. Soc. x, pl. ix) Dr. Horn has recognized the female in his cabinet. The sexual characters mark this insect as one of the most peculiar of the genus in our fauna.

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\* As stated above (loc. cit. p. 285) the figure of the above species was prepared by me at Dr. LeConte's request and appears as *Stachygraphis maculata*. On the arrival of my figure Mr. Fauvel recognized the species as the one erroneously referred to *Amphichroum canaliculatum* Er. (Notices Entomologiques, pt. 7, p. 76), concerning which Mr. Fauvel writes as follows: "*Stachygraphis maculata* is the insect described by error in my Staphylinidæ of N. A. as *Amphichroum canaliculatum*. At the time of my description I had merely an individual in fragments, but since I have others of both sexes from Nevada. It is a new species extremely near *hirtellum* but larger with the more robust head more strongly punctured, more unequal; the thorax larger and longer, a little narrower in front; the female has but a few finer hairs behind the eyes. In *hirtellum* the anterior tibiæ are sinuate to the middle, then swollen in mass toward the summit, squarely truncate at tip. Apart from these differences *maculatum* resembles *hirtellum* and might be considered a race from the Alps of California."—(Geo. H. Horn.)

**EUDECTUS** Redt.

This genus, characterized in the table on p. 104 of the second Ed. of Class. Col. N. Am., is allied to *Coryphium* but differs by the antennæ, which are not longer than the head and prothorax and much stouter; the outer joints are distinctly transverse. The joints 1-4 of the hind tarsi are short and nearly equal, combined as long as the 5th. The elytra are long, parallel and densely punctured with narrow side-margin. Prothorax wider than long; sides narrowly margined, angulated about the middle disc densely coarsely punctured, with a deep dorsal line ending behind the middle and surrounded behind by a curved impression.

**E. crassicornis.**—Piceous, opaque, nearly glabrous; base of antennæ and elytra paler; legs testaceous. Length 1.5 mm.

One specimen, Opelousas, La.; Mr. Salle. The dorsal segments are nearly smooth. The head has two small frontal impressions and widely separated occipital ocelli. The penultimate joint of the maxillary palpi is thick, obconical, and the last joint small, acicular.

**DRASTERIUS** Esch.

This genus is very similar to *Elater*, but differs by the dilated part of the hind coxæ being truncate in front of the trochanter, and not emarginate as in *Elater* and *Megapenthes*; the angle is therefore obtuse, not prominent as in those genera. The antennæ are but feebly serrate, the 2d and 3d joints nearly equal, united longer than the 4th. The pubescence is coarse and the punctures deep, except in *D. debilis*. The color is often brown-yellow, with black spots.

- |  |                      |
|--|----------------------|
| Prothorax deeply punctured.....  | 2.                   |
| Prothorax finely punctulate.....   | 8.                   |
| 2.—Prothorax not wider than elytra.....  | 3.                   |
| Prothorax wider than elytra, and two-thirds as long; opaque dirty piceous elytral striæ cribrate; 6 mm. California.....  | <b>grandicollis.</b> |
| 3.—Prothorax distinctly narrowed near the front.....   | 4.                   |
| Slender, cylindrical, prothorax not narrowed in front, very densely more finely punctured; opaque, dull ferruginous, with a dorsal thoracic piceous cloud and an elytral fascia behind the middle; interspaces very rough; 7 mm. S. Texas.....                                 | <b>2. asper.</b>     |
| 4.—Prothorax in great part yellow.....   | 5.                   |
| Prothorax black.....   | 7.                   |
| 5.—Prothorax more densely punctured, less shining, with a dorsal vitta sometimes absent; elytra with an elongate black spot near the base, and a transverse band behind the middle; 5-7.5 mm. California.....  | <b>3. livens.</b>    |
| Prothorax less densely punctured, more shining. Head thoracic dorsal stripe, scutel, elongate elytral spot and posterior sinuate band blackish. Varies with only the band of elytra dark, also with the black suffused; 6-7 mm. Lake Superior, Penna., Kansas, Texas, Cal..... | <b>4. elegans.</b>   |

- Much smaller, color and sculpture as in *D. elegans*; hind angles of prothorax more divergent; 3 mm. Maryland, Texas.....5. **amabilis**.  
 Stouter, punctures of elytral striæ much coarser; color and sculpture as in *D. elegans*; 3-5 mm. Texas.....6. **cribratus**.  
 7.—Entirely black, pubescence coarse, gray 5 mm. California.....7. **simiolus**.  
 8.—Linear, very slender, black finely punctulate and pubescent; antennæ, legs, base and apex of elytra, and base of prothorax brown; 4.5 mm. Lake Superior.....8. **debilis**.

## Bibliography.

1. **D. grandicollis** Horn, Trans. Am. Ent. Soc. 1871, 308, pl. iv, fig. 8.
2. **D. asper** n. sp.—More slender than usual, having the form of a small *Dolopius oblongicollis*, dull ferruginous, head and posterior transverse band of elytra black, also a small cloud in front of the middle of each. Antennæ longer than prothorax, slightly serrate, 2d and 3d joints united as long as the 4th. Prothorax densely and finely punctured, nearly twice as long as wide, scarcely narrowed in front, divergent, disc with a dorsal blackish oval spot; elytral striæ deep, interspaces strongly rugosely punctured; 7 mm.  
 Texas. One specimen collected by Belfrage.
3. **D. livens** Lec. Trans. Am. Phil. Soc. X, 484 (*Monocrepidius*); Cand. Mon. El. II, 430.
4. **D. elegans** Fabr. Ent. Syst. I, II, 230; Syst. El. II, 240; Herbst, Käfer, X, 132; *dorsalis* Say, Jour. Ac. Nat. Sc. Phil. III, 167; ed. Lec. II, 108; Lap. Hist. Nat. Col. I, 246; Germ. Zeitschr. V, 147 (*Cryptohypnus*); Lec. Trans. Am. Phil. Soc. X, 485 (*Monocrepidius*); Cand. Mon. El. II, 285 (*Aeolus*); marks normal, well limited; *comis* Lec. loc. cit. X, 484 (*Monocrepidius*); Cand. Mon. El. II, 429; *variegatus* Boh. Eug. Resa, p. 69; dark spots larger, confluent; *circumscriptus* Germ. Ins. Nov. 46; Zeitschr. VI, 46 (*Cryptohypnus*); suffused with black; *margenicollis* Horn, Trans. Am. Ent. Soc. 1871, 308.
5. **D. amabilis** Lec. loc. cit. X, 485.
6. **D. cribratus** n. sp.—Dull brown, antennæ and legs paler; deeply more strongly punctured than in the others, pubescence yellow. Antennæ longer than prothorax, slender, 2d and 3d joints united equal to the 4th. Head black. Prothorax longer than wide, nearly cylindrical, slightly narrower near the front, hind angles long slightly divergent, sharply carinate, disc with an elongate blackish spot. Elytra with a long anterior black spot and a transverse band behind the middle; striæ very coarsely punctured, interspaces finely punctulate; 3.5 mm.  
 Texas. One specimen collected by Belfrage.
7. **D. simiolus** Cand. Mon. El. II, 428. I have received a specimen from Dr. Candéze, as collected in California? but have no other knowledge of its occurring north of Mexico.
8. **D. debilis** n. sp.—Black, very finely punctured. finely gray pubescent. Antennæ, legs and elytra brown, the last two with a broad band at the middle and the suture darker. Prothorax one-half longer than wide nearly cylindrical hind angles long slightly divergent, testaceous, sharply carinate. Elytral striæ deep, interspaces densely punctured; 4-5 mm.

Marquette, Lake Superior; Messrs. Hubbard & Schwarz. The antennæ are slender, as long as the prothorax, with the 2d and 3d joints united as long as the 4th. Differs in no respect from *Drasterius*, though the punctuation is much finer than in the other species.

### MEGAPENTHES Kiesenw.

This genus only differs from *Elater* by the sutures of the prosternum being not excavated in front between the sternum and the flanks; the 2d and 3d antennal joints are frequently small, equal and together not longer than the 4th, but in this respect there is not an entire uniformity.

In all the species the prosternum is concave or channeled between the front coxæ, which is not the case in *Elater*.

#### A.—Hind angles of prothorax unicarinate.

- Opaque, very densely punctured. Antennæ strongly serrate, joints 2-3 very small shorter than 4th; in the male with stiff erect hairs.....2.
- Less densely punctured not opaque. Antennæ moderately serrate.....5.
- 2.—Pubescence black.....3.
- Pubescence brown.....4.
- 3.—Beneath less finely and densely punctured; prosternum channeled between the coxæ; color dull black, legs sometimes dark red; 9.5-11 mm. Oregon, Southern California.....1. **tartareus**.
- Beneath finely more densely punctured, prosternum concave between the coxæ; black, elytra dirty yellow with darker clouds; 14 mm. San Diego, Cal.....2. **turbulentus**.
- Entirely black, abdomen very finely, still more densely punctured; prosternum concave between the coxæ; 9-16 mm. New Mexico, Northern California.....3. **aterrimus**.
- 4.—Entirely black, very finely and densely punctured beneath; prosternum concave between the coxæ; 13-16 mm. Penna.....4. **granulosus**.
- Black, beneath very finely, densely punctured: prosternum depressed between the coxæ; the whole of the limb of elytra and disc of prothorax reddish yellow, the latter with a medial spot, basal and part of side-margin black; 8-11 mm. Middle and Southern States.....5. **limbalis**.
- 5.—Antennæ with the 2d and 3d joints small equal.....6.
- Antennæ with 3d joint longer than 2d.....9.
- 6.—Prothorax yellowish at base.....7.
- Prothorax entirely black.....8.
- Prothorax and legs red, antennæ of male with erect hair; body long, slender, prosternum black; 8 mm. California, Wash. Terr.....6. **nigriventris**.
- 7.—Piceous, base of prothorax and elytra, and legs testaceous; 7 mm. Middle and Southern States.....7. **rufilabris**.
- Black, two basal prothoracic spots at the hind angles yellow; elytra with the anterior half and a transverse band behind the middle, and a small spot at the anterior fourth black; 8 mm. California.....8. **elegans**.

- 8.—Black, elytra with an elongate pale yellow spot from the middle of the base of each hooked to the side margin at the middle, and a transverse spot at the hindmost fourth from the side nearly to the suture; 5–6 mm. Northern Canada; Vancouver. ....9. **stigmaeus**.

Varies with the spots very small.

Black, elytra with a large basal spot often extending beyond the middle, and a posterior one orange; 5.5 mm. California....10. **quadrinotatus**.

Black, elytra orange, scutellar spot and two transverse bands connected along the suture black; 8 mm. California.....11. **Rogersii**.

- 9.—Very black, pubescence black; prothorax sparsely, finely punctured, disc and flanks bright red; antennæ strongly serrate, 3d joint as large as 4th.

12. **lepidus**.

**B.**—Hind angles of prothorax bicarinate.

Elongate, sub-cuneiform, pubescence brown; prothorax longer than wide deeply punctured, narrowed near the front, hind angles acutely bicarinate; elytral striae fine, interspaces slightly convex, finely punctured; antennæ as long as the prothorax, slender, 2d and 3d joints united as long as the 4th; 10 mm. Missouri.....13. **angularis**.

## Bibliography.

1. **M. tartareus** Lec. Proc. Ac. Nat. Sc. Phila. 1859, 85; this species and *aterimus* bear a remarkable resemblance to *Elater Sturmii*, but the last has the prosternal sutures distinctly excavated in front.
2. **M. turbulentus** Lec. Trans. Am. Phil. Soc. X, 463; Cand. Mon. El. II, 508
3. **M. aterrimus** Horn, Trans. Am. Ent. Soc. 1871, 309.
4. **M. granulatus** Mels. Proc. Ac. Nat. Sc. Phila. II, 159 (Ectinus); Cand. Mon. El. II, 497; *Sturmii* Lec. loc. cit. X, 463.
5. **M. limbalis** Herbst, Käfer, X, 53, pl. 162, fig. 10; Say, Trans. Am. Phil. Soc. VI, 167; ed. Lec. II, 601; Germ. Zeitschr. V, 164; Lec. loc. cit. X, 463; Cand. Mon. El. IV, 312 (Ludius).
6. **M. nigriventris** n. sp.—Slender, sub-cuneiform, black with fine, short yellow pubescence, legs and prothorax bright red, the latter longer than wide, broadly on the sides, hind angles not divergent nor strongly carinate; prosternum black. Elytra deeply rugosely punctured. Antennæ long slender, black, in the male with stiff erect hair, 2d and 3d joints small united shorter than the 4th; 8 mm.  
California and Washington Territory.
7. **M. rufilabris** Germ. Ins. Nov. 47; Zeitschr. V, 169; Lec. loc. cit. X, 472; Cand. Mon. El. II, 498.
8. **M. elegans** Horn, Trans. Am. Ent. Soc. 1871, 310, pl. IV, fig. 12.
9. **M. stigmaeus** Lec. loc. cit. X, 472; Cand. Mon. El. II, 509; *caprella* Lec. Pacific Expl. and Surv. XI, 47; Cand. Mon. El. II, 510.
10. **M. quadrinotatus** Horn, Trans. Am. Ent. Soc. 1871, p. 313.
11. **M. Rogersii** Horn, Trans. Am. Ent. Soc. 1871, 310, pl. IV, fig. 9.
12. **M. lepidus** n. sp.—Very black, with a bluish tinge, pubescence black, form sub-cuneiform, less elongate than in the other species; prothorax finely sparsely punctured, disc and flanks bright red, narrowed from the base, longer than wide



sides more rounded in the female than in the male, prosternum black very sparsely punctured. Antennæ as long as prothorax in female, longer in male, strongly serrate, 3d joint triangular, equal to 4th in male, somewhat smaller in female; 7 mm.

San Joaquin Co., Cal.; Mr. Blüthner.

13. **M. angularis** Lec. Proc. Ac. Nat. Sc. 1866, 390. Differs from the other species by the hind coxal plates not emarginate in front of the trochanters, but simply truncate, as in *Drasterius*.

### ELATER Linn.

This genus indicates a central set of species, of tolerably uniform organization, and may be distinguished as follows: Body more or less cuneiform, pubescent; front convex, distinctly margined, base of labrum on a lower level; antennæ serrate 3d joint frequently but little wider than 2d, though often as long as the 4th; prothorax narrowed in front, hind angles long, acutely carinate, basal fissures very short, side margin fine, distinct; prosternal sutures double, excavated near the anterior lobe, which is rounded and moderately long. Scutel rounded. Elytra strongly striate. Hind coxal plates narrow at the outer part, then rather suddenly dilated, distinctly emarginate from the dilated part to the median line; tarsi as long as the tibiæ, joints 1-4 gradually shorter, 5th again longer, claws slender, not toothed.

From *Megapenthes* this genus is distinguished by the prosternal sutures excavated in front, from *Ludius* by the front being distinctly elevated above the labrum, and by the hind coxal plates much narrower at the outer part.

*E. gracilis* makes an exception to the other species by the more linear elongate form and the longer more slender antennæ and legs.

Observing that in other genera of Elateridæ frequent variations in color occurred, I have availed myself of the circumstance to suppress those species which could not be defined by well marked differences in sculpture. According to the hind angles of the prothorax, they may be divided as follows:

#### A.—Hind angles of prothorax bicarinate.

- |   |    |
|---|----|
| Brown or piceous, pubescence coarse, brown; prothorax thickly, somewhat coarsely punctured; elytra with interspaces distinctly punctured..... | 2. |
| Black, pubescence finer black.....  | 3. |
| Prothorax red, elytra black.....  | 4. |
| Yellow-brown, pubescence yellow, fine.....  | 5. |

- 2.—Antennæ and legs reddish brown, prothorax equally punctured, antennæ slender, second joint not very small, third shorter than fourth; 9 mm. Middle and Western States and Canada.....1. **hepaticus**.  
Antennæ and legs dull red, prothorax coarsely punctured, antennæ with broad joints, the second very small, third as long as fourth; 14 mm. Texas.
2. **insignis**.  
3.—Prothorax finely densely punctured; antennæ, legs and under side of body reddish brown or ferruginous; 12.5 mm. Oregon, California and Vancouver.
3. **rhodopus**.  
4.—Black, prothorax above and beneath bright red; antennæ with third joint as long as fourth, triangular in male, narrow in female; 6.5–8 mm. Southern California.....4. **fastus**.  
Red, head, elytra and propectus black; antennæ brown, strongly serrate, third joint (male) equal to fourth; prothorax more densely punctured; 8 mm. New Mexico.....5. **rubriventris**.  
5.—Prothorax and flanks, legs and elytra dull yellow; elytra with an apical black space; antennæ black brown, third joint but little longer than second; 7.5 mm. Nevada.....6. **partitus**.  
Dull yellow, head, scutellum, postpectus and antennæ black, the last with third joint but little longer than second; 7 mm. California.....7. **melinus**.

**B.**—Hind angles of thorax unicarinate.

- Prothorax clothed with stiff erect hair.....2.  
Pubescence much inclined.....5.  
2.—Prothorax shining.....3.  
Prothorax opaque, densely punctured.  
Entirely black; 11 mm. Florida.....8. **Sturmii**.  
Elytra red, apical third black; 7–8.5 mm. California.....9. **Phelpsii**.  
3.—Elytra half red, half black; 6 mm. California.....10. **Horni**.  
Elytra red with apical space black.  
Pubescence yellow; 8 mm. California.....11. **cordatus**.  
Pubescence black.  
Elytra scarlet with apical third black, the black space attaining the side margin and apex; 8.5 mm. California, Vancouver.....12. **Behrensi**.  
Elytra scarlet with apical cordiform black spot which attains the apex but not side margin; 8–10 mm. California.....13. **cordifer**.  
Entire surface black; 8.5 mm. Colorado.....14. **ater**.  
5.—Antennæ feebly serrate, joints longer than wide, outer angles not acute.....6.  
Antennæ strongly serrate, joints not longer than wide, outer angles acute.....10.  
6.—Dark brown, pubescence coarse; prothorax equally deeply punctured.....7.  
Black, finely pubescent; prothorax more finely and sparsely punctured behind.....8.  
Elytra more or less brownish red, or spotted.....9.  
7.—Cuneiform, more strongly punctured; antennæ as long as the prothorax; hind angles of latter divergent; 8–11.5 mm. Canada to Texas.
15. **manipularis**.  
Linear, very elongate; prothorax with hind angles diverging; antennæ much longer than prothorax; 9 mm. California.....16. **longicornis**.  
8.—Third joint of antennæ nearly as long as the fourth; antennæ and legs nearly black; thorax very sparsely punctate; 7.25 mm. Alaska.
17. **carbonicolor**.

Third joint of antennæ shorter than the fourth.

Pubescence brownish, antennæ brown; 6-8 mm. Middle and N. E. States  
Canada to British Columbia..... 18. **pedalis**.

Pubescence black, antennæ piceous; 8-9.5 mm. Alaska to Vancouver.

19. **nigrinus**.

9.—Prothorax more deeply punctured, pubescence longer; 5-8 mm. Anticosti,  
N. H., Lake Superior. Varies with elytra of lighter tint.....20. **mixtus**.

Prothorax more finely punctured, pubescence shorter; elytra red, black from  
the middle to the tip; 5-5.5 mm. Maine to Wash. Territory..21. **pullus**.

10.—Antennæ with 3d joint triangular in both sexes.....11.

Antennæ with 3d joint at most feebly triangular in male .....13.

11.—Legs black.....12.

Legs pale; elytra pale yellow, margins blackish near the tip; 3d antennal  
joint of male smaller than 4th; 8.5-10 mm. Canada, Georgia.

22. **nigricollis**.

12.—Elytra pale yellow, sutural margin and tip black; 3d antennal joint of male  
as large as 4th; 7.5-8.5 mm. Canada, Georgia, Illinois.....23. **luteus**.

Elytra black, basal and lateral margins scarlet; 3d antennal joint of male  
smaller than 4th; 10 mm. Canada, Georgia.....24. **discoideus**.

Elytra yellow, cloudy on the margins at the tip; 3d antennal joint of male  
smaller than 4th; 10-14 mm. Canada, Middle and Western States.

25. **vitiosus**.

Dull black, base of elytra and sides for one-fourth the length red; 12 mm.

Massachusetts.....26. **laesus**.

Elytra yellow, sutural band stripe and lateral margin black; 9-12 mm.

New York .....27. **Sayi**.

Antennæ with third joint very little longer than second and very obviously  
shorter than the fourth .....14

Antennæ with third joint very nearly equal to the fourth and much longer  
than second.

Pubescence of thorax rather long and coarse; legs reddish brown; 12 mm.

Middle States.....28. **impolitus**.

Pubescence of thorax very short.

Body uniformly dark brown, nearly black; 11-13 mm. Pennsylvania,

Illinois, Hudson's Bay. ....29. **socer**.

Thorax red; 11-14 mm. Georgia, Mass., Ill.....30. **rubricollis**.

14.—Black, legs ferruginous.....15.

Black, prothorax more or less red.....19.

Black, elytra more or less brown-red or scarlet.....20.

Black, prothorax deeply punctured; elytra red at base and at sides in front;  
9.5-11 mm. Canada, New England.....31. **semicinctus**.

Black, legs piceous; elytra dirty pale yellow, suture and margin narrowly  
black; 8 mm. New York.....32. **militaris**.

General color yellow-brown, small species.....21.

15.—Prothorax finely and sparsely punctate; antennæ ferruginous joints 2-3  
smaller than usual, together scarcely longer than the fourth; 7 mm. Lake  
Superior.....33. **subtilis**.

Prothorax deeply rather densely punctured.....16.

16.—Pubescence black.....17.

Pubescence brown or brown-yellow.....18.

- 17.—Antennæ ferruginous; legs piceous or brown, tarsi conspicuously paler; 7–12 mm. California, Oregon, H. B. T.....34. **mœrens**.
- 18.—Pubescence brown, surface less shining, legs piceous; thorax more sharply and coarsely punctate; 8–13 mm. Northern, Anticosti to Lake Superior.  
35. **luctuosus**.  
Pubescence brown-yellow or fulvous, surface shining, legs ferruginous, thorax more sparsely, less deeply punctate; 7–9 mm. Pennsylvania to Canada, Lake Superior and H. B. T.....36. **nigricans**.
- 19.—Prothorax at base and sides dull red; 7–9 mm. Va. to Can..37. **rubricans**.  
Prothorax red with broad median stripe black; prosternum black; 10 mm. Nevada.....38. **lateralis**.  
Prothorax entirely scarlet.  
Body above and beneath red, head and elytra above black; 8 mm. Cal.  
39. **atripennis**.  
Body beneath black.  
Prosternum entirely black.  
Prothorax very sparsely equally punctured; 7–8 mm. Middle and Southern States.....40. **collaris**.  
Prothorax more coarsely punctured, more densely at the sides; 10 mm. Nevada.....41. **torquatus**.  
Prosternum black at tip only; prothorax very sparsely punctate; 7 mm. Nevada.....42. **nevadensis**.
- 20.—Elytra entirely scarlet; thorax very sparsely punctate; 6–10 mm. Massachusetts to Georgia and Illinois.....43. **sanguinipennis**.  
Elytra black, humeral space red; 8–9 mm. Mid. States..44. **xanthomus**.  
Elytra black at apical half, red at base; 9 mm. Oregon..45. **dimidiatus**.  
Elytra dull reddish yellow, with an apical piceous spot which attains neither suture apex nor margin, and is sometime wanting; 8–12 mm. N. E. States westward to Cal., Wash. Terr., Col. and Vanc.....46. **apicatus**.  
Elytra dull reddish yellow, apical third black; 7–8 mm. Washington Territory and California.....47. **affinis**.
- 21.—Elytra dusky with the tip and an oblique spot dull yellow, thorax often yellow; 3.5–4.5 mm. Canada, Illinois, Georgia.....48. **obliquus**.  
Entirely brownish testaceous; 3 mm. Georgia to Illinois.....49. **pusio**.

### Notes and Descriptions.

2. **E. insignis**.—Elongate, piceous brown, deeply not very densely punctured. Antennæ and legs dull red; the former longer than prothorax, strongly serrate, without erect hair; prothorax longer than wide, gradually narrowed from base to front, sides very slightly rounded hind angles long acute, strongly bicarinate, deeply channeled at base; striæ of elytra deep, strongly punctured, interspaces rugosely punctured; pubescence gray, coarse; 14 mm.

One male, Texas; Mr. G. Belfrage; resembles in form a *Melanotus corticinus*.

4. **E. fastus**.—Black, with brown pubescence. Head and prothorax (including prosternum) red, deeply rather densely punctured, narrowed in front, moderately rounded on the sides, not channeled, hind angles very distinctly bicarinate. Antennæ rather strongly serrate, 3d joint nearly as long as the 4th, more triangular in the male; 6.5–8 mm.

Southern California; Morrison; one pair.

5. **E. rubriventris**.—Red, head, elytra and postpectus black; prothorax longer than wide, narrowed with rounded sides from the middle to the tip, disc finely densely punctured, hind angles bicarinate, prosternum red. Antennæ not longer than prothorax, strongly serrate, 3d joint equal to 2d, united equal to the 4th, brown. Elytral striæ deep, interspaces convex, rugosely punctured; 8 mm.

One specimen collected near Las Vegas, New Mexico, by Prof. F. H. Snow.

7. **E. melinus**.—Dull yellow, with yellow pubescence. Head, scutellum, postpectus and antennæ black, the last are half as long as the body, slender, 3d joint but little longer than 2d; prothorax hardly longer than wide, narrowed from the base, deeply but not coarsely or densely punctured, angles bicarinate. Elytral striæ punctured, well impressed, interspaces nearly flat, punctulate; 7 mm.

Clark's Station, California; one specimen collected by Mr. A. Bolter.

14. **E. ater**.—Entirely black, not opaque, pubescence black, erect on the prothorax, which is longer than wide, slightly narrowed and rounded near the apex, densely not coarsely punctured, angles unicarinate. Antennæ as long as prothorax, not strongly serrate, 2d and 3d joints equal united as long as the 4th; 8.5 mm.

Manitou, Colorado; one specimen collected by Mr. A. Bolter.

16. **E. longicornis**.—More elongate than usual, brown with grayish pubescence. Antennæ half as long as the body, joints long, 2d and 3d united as long as the 4th; prothorax longer than wide narrowed from the base, very slightly rounded on the sides, angles divergent, unicarinate, disc deeply not coarsely nor densely punctured. Elytral striæ composed of fine punctures, interspaces flat sparsely punctulate; 9 mm.

Santa Anna River, California; one specimen collected by Mr. Bolter. Resembles greatly *Melanotus longulus*.

33. **E. subtilis**.—Black, clothed with very fine short brown pubescence. Antennæ and legs brown, the former not longer than prothorax, moderately serrate, 2d and 3d joints equal; prothorax finely densely punctured, slightly longer than wide narrowed from the base forwards, slightly rounded on the sides, angles unicarinate. Elytra with convex interspaces, densely punctulate; beneath densely punctulate, prosternum shining finely sparsely punctured; 7 mm.

One specimen collected by myself, at Lake Superior; a very peculiar species by the fineness of the sculpture, having somewhat the lustre of a *Cardiophorus*.

38. **E. lateralis**.—Black, pubescence dark gray, prothorax finely punctured hardly longer than wide, sides more rounded in front, hind angles unicarinate; deep red, broad dorsal vitta and prosternum black. Antennæ shorter than prothorax, moderately serrate, 2d and 3d joints united as long as the 4th; 10 mm.

Nevada; one specimen in Dr. Horn's collection.

41. **E. torquatus**.—Black, precisely similar to *lateralis*, but the disc and flanks of the prothorax are red; 10 mm.

Nevada; one specimen in Dr. Horn's collection. Perhaps only color variety of the preceding.

42. **E. nevadensis**.—Black, pubescence brown, longer than usual, sub-erect on the prothorax, which is a little longer than wide, narrowed from the base forwards, bright red finely not densely punctured, red, posterior spine black. Elytral interspaces convex, rugosely punctured. Antennæ longer than prothorax, slender, joints elongate, 2d and 3d united equal to the 4th; 7 mm.

Nevada; one specimen in Dr. Horn's collection.

47. **E. affinis**.—Black with yellow pubescence. Antennæ but little longer than prothorax strongly serrate in the male, 3d joint but little longer than 2d; prothorax a little longer than wide, more narrowed in front and rounded on the sides from the middle, deeply densely punctured, angles unicarinate. Elytra scarlet, apical third black, striæ punctured; 7-8 mm.

Washington Territory and Southern California. This species exactly resembles *E. cordatus*, except that the pubescence of the prothorax is not erect but inclined.

48. **E. obliquus** Say. The name *areolatus* is really the older name but as it applies to a rather rare variety and the other name has come into such general use it is not thought necessary to make the change.

## Bibliography.

### ELATER Linn.

1. **E. hepaticus** Mels. Proc. Acad. ii, p. 160; Lec. Trans. Am. Phil. Soc. x, p. 467; Candéze, Elaterides ii, p. 479.
2. **E. insignis** n. sp. supra.
3. **E. rhodopus** Lec. Pacif. R. R. Expl. and Surv. xi, p. 47; *umbricolor* Motsch. Bull. Mosc. 1859, iv, p. 385.
4. **E. fastus** n. sp. supra.
5. **E. rubriventris** n. sp. supra.
6. **E. partitus** Cand. Mem. Liege ix, 1881, p. 63 (separate).
7. **E. melinus** n. sp. supra.
8. **E. Sturmii** Germ. Zeitschr. v, p. 188; Cand. Elat. ii, p. 496, pl. 7, fig. 18.
9. **E. Phelpsii** Horn, Trans. Am. Ent. Soc. 1874, p. 22.
10. **E. Horni** Cand. Mem. Liege ix, p. 63 (separate).
11. **E. cordatus** Horn, l. c. 1871, p. 306, pl. iv, fig. 7.
12. **E. Behrensi** Horn, l. c. p. 214, pl. iv, fig. 5.
13. **E. cordifer** Lec. Proc. Acad. 1859, p. 72; *Lecontii* Cand. Elat. ii, p. 459.
14. **E. ater** n. sp. supra.
15. **E. manipularis** Cand. loc. cit. p. 478.
16. **E. longicornis** n. sp. supra.
17. **E. carbonicolor** Esch. Thon. Archiv. 11, p. 33; Mann. Bull. Mosc. 1843, p. 240; Cand. loc. cit. p. 476.
18. **E. pedalis** Germ. Zeitschr. v, 176; Cand. loc. cit. p. 481; *ursulus* Mels. Proc. Acad. ii, p. 213; Lec. Revis. p. 468; *deletus* Lec. loc. cit. p. 469.
19. **E. nigrinus** Payk. Fauna Suec. iii, p. 39; Cand. loc. cit. p. 475; *anthracinus* Lec. Ann. Mag. Nat. Hist. 1869, p. 378.

20. *E. mixtus* Herbst, Käfer x, p. 74, pl. 164, fig. 9; Lec. Rev. p. 469; Cand. loc. cit. p. 453; *lacustris* Lec. loc. cit. p. 468; *fuscus* Lec. loc. cit. p. 468; *miniipennis* Lec. loc. cit. p. 469.
21. *E. pullus* Germ. Zeitschr. v, p. 162; Cand. loc. cit. p. 454.
22. *E. nigricollis* Herbst, Käfer x, p. 73, pl. 164, fig. 7; Germ. Zeitschr. v, p. 166; Lec. loc. cit. p. 464; Cand. Elat. II, 463.
23. *E. linteus* Say, Trans. Am. Phil. Soc. vi, p. 168; Lec. loc. cit. p. 464; Cand. Elat. II, p. 462; *lugubris* Germ. Zeits. v, p. 165.
24. *E. discoideus* Fab. Syst. El. ii, p. 240; Lec. loc. cit. p. 464; Cand. Elat. II, p. 461.
25. *E. vitiosus* Lec. loc. cit. p. 465.
26. *E. laesus* Lec. loc. cit. p. 465.
27. *E. Sayi* Lec. loc. cit. p. 465; Cand. Elat. II, p. 464; *oblessus* Say, Trans. Am. Phil. Soc. vi, p. 165.
28. *E. impolitus* Mels. Proc. Acad. ii, p. 160; Lec. loc. cit. p. 467.
29. *E. socer* Lec. loc. cit. p. 467; Cand. Elat. II, p. 477.
30. *E. rubricollis* Herbst, Käfer x, p. 49, pl. 162, fig. 6; Lec. loc. cit. p. 464; Cand. Elat. II, p. 455; *verticinus* Beauv. Ins. p. 214, pl. 9, fig. 6.
31. *E. semicinctus* Rand. Bost. Journ. ii, p. 10; Lec. loc. cit. p. 465; Cand. Elat. II, p. 462; *protervus* Lec. loc. cit. p. 471.
32. *E. militaris* Harris, Hartf. Trans. 1836, p. 70, pl. 1, fig. 1; Germ. Zeitschr. v, p. 166.
33. *E. subtilis* n. sp. supra.
34. *E. moerens* Lec. Proc. Acad. 1861, p. 347.
35. *E. luctuosus* Lec. loc. cit. p. 466; Cand. Elat. II, p. 478.
36. *E. nigricans* Germ. Zeitschr. v, p. 176; Lec. loc. cit. p. 468; Cand. Elat. II, p. 480; *testaceipes* Mels. Proc. Acad. ii, p. 213; *molestus* Lec. loc. cit. p. 467.
37. *E. rubricus* Say, Ann. Lyc. 1, p. 261; Lec. loc. cit. p. 470; Cand. Elat. II, p. 464; *concinus* Germ. Zeitschr. v, p. 170.
38. *E. lateralis* n. sp. supra.
39. *E. atripennis* Horn, Trans. Am. Ent. Soc. 1871, p. 306; *violaceipennis* Cand. Mem. Liege. 1881, p. 62 (separate).
40. *E. collaris* Say, Ann. Lyc. 1, p. 268; Lec. loc. cit. p. 470; Cand. Elat. II, p. 456; *thoracicus* Herbst, Käfer x, p. 51, pl. 162, fig. 8.
41. *E. torquatus* n. sp. supra.
42. *E. nevadensis* n. sp. supra.
43. *E. sanguinipennis* Say, Journ. Acad. iii, p. 177; Lec. loc. cit. p. 469; Cand. Elat. II, p. 452.
44. *E. xanthomus* Germ. Zeitschr. v, p. 168; Cand. Elat. II, p. 465; *humeralis* Mels. Proc. Acad. ii, p. 159; Lec. loc. cit. p. 471.
45. *E. dimidiatus* Lec. Proc. Acad. 1861, p. 347.
46. *E. apicatus* Say, Trans. Am. Phil. Soc. vi, p. 170; Lec. loc. cit. p. 466; Cand. Elat. II, p. 459; *melanopygus* Germ. Zeitschr. v, p. 161; *phaenicopterus* Germ. loc. cit.; Lec. loc. cit. p. 466; Cand. Elat. II, p. 448.
47. *E. affinis* n. sp. supra.
48. *E. obliquus* Say, Trans. Am. Phil. Soc. vi, p. 174; Lec. loc. cit. p. 470; Cand. Elat. II, p. 469; *areolatus* Say, Journ. Acad. iii, p. 167; Lec. loc. cit. p. 471; Cand. Elat. II, p. 471; *scitulus* Germ. Zeitschr. v, p. 168.
49. *E. pusio* Germ. loc. cit. p. 169; *luteolus* Lec. loc. cit. p. 471.

*Unrecognized Species.*

**E. ignobilis** Boh. Eug. Resa, p. 68.

**E. rufipes** Beauv. Ins. p. 214, pl. 9, fig. 9.

The localities given for the species collected during the Eugenies Resa are not reliable in all cases, and the species may be from any other region than California. *E. rufipes* is too briefly described to make its recognition certain.

**AGRIOTES** Esch.

The occurrence of several new species affords an opportunity for a renewed study of the genus in which greater stress is laid on structural characters and less on color and other variable qualities.

- Hind coxal plates very gradually dilated internally and not twice broader at inner third than externally ..... 2.
- Hind coxal plates rather suddenly dilated within, usually more than twice as broad at inner third as externally ..... 10.
- 2.—Mandibles robust, the tip broad, chisel-shaped; form robust; thorax very convex, coarsely and densely punctured; 7-9 mm. Atlantic States and Canada.
1. **maucus**.
- Mandibles much more slender, tips sub-acute ..... 3.
- 3.—Prothorax similarly, usually coarsely punctured over the entire surface ..... 4.
- Prothorax coarsely punctured in front, very finely punctulate posteriorly; color variable, usually piceous, often with elytra dull red; 8-11 mm. Can. and Lake Superior ..... 2. **stabilis**.
- 4.—Antennæ with joints 2-3 each distinctly shorter than joint 4 ..... 5.
- Antennæ with joints 2-3 each equal in length to joint 4 and scarcely narrower ..... 9.
- 5.—Lateral margin of thorax distinct in its entire length ..... 6.
- Lateral margin of thorax obliterated except near the hind angles ..... 8.
- 6.—Hind angles of thorax very distinctly carinate ..... 7.
- Hind angles of thorax not perceptibly carinate; color pale brown with grayish pubescence; 7-8 mm. Mass., Illinois, Kansas and Texas ..... 3. **insanus**.
- 7.—Variable in color, sometimes entirely piceous, or with the sides of thorax dark red, again with the elytra ferruginous, or entirely ferruginous; 9-12 mm. N. E. States, through Canada to Hudson's Bay, British Columbia, Oregon, California ..... 4. **fucosus**.
- Thorax much less convex than in *fucosus*, the punctuation less coarse and distinct, not crowded; color piceous, elytra dark ferruginous, legs pale; 10 mm. Oregon ..... 5. **ferrugineipennis**.
- 8.—Parallel, thorax very coarsely and densely punctured; color variable, often entirely piceous usually with ferruginous elytra; 7-9 mm. California.
6. **imperfectus**.
- Form slender, piceous, thorax sparsely punctate; 6.5-7.5 mm. Oregon.
7. **sparsus**.
- 9.—Lateral margin of thorax indistinct in the middle of its length and very much deflexed in front; abdomen rather sparsely punctate; 9 mm. Pennsylvania and Ohio ..... 8. **pubescens**.
- Lateral margin of thorax sharply defined in its entire length; abdomen densely punctulate; thorax piceous, elytra ferruginous; 8.5 mm. Newfoundland, N. H. and Canada ..... 9. **limosus**.



- 10.—Lateral margin of thorax sharply defined in its entire length.....11.  
 Lateral margin of thorax very incomplete.  
 Margin obtuse in the greater part of its length; form robust, piceous, pubescence dark brown nearly erect; 8 mm. Cal.....10. **hispidus**.  
 Margin obsolete in front; abdomen sparsely punctate; 7.5-8 mm. Oregon, Washington Territory.....11. **opaculus**.
- 11.—Antennæ with joints 2-3 each shorter than the fourth.  
 Third joint of antennæ shorter than second; form slender, brown, hind angles of thorax feebly carinate; flanks of prothorax beneath not densely punctate, shining; 5.5-9.5 mm. Georgia to Canada and Illinois.  
 12. **oblongicollis**.  
 Third joint of antennæ distinctly longer than the second; piceous, elytra dull red, hind angles of thorax strongly carinate; flanks of prothorax beneath densely punctate and opaque; 8 mm. Western Nevada.  
 13. **nevadensis**.  
 Antennæ with joints 2, 3 and 4 very nearly of equal length.....12.
- 12.—Abdomen finely, closely punctate .....13.  
 Abdomen coarsely, not closely punctate .....15.
- 13.—Prothorax above and its flanks beneath coarsely not densely punctate, rather shining.....14.  
 Prothorax and flanks densely more finely punctate, sub-opaque; piceous, elytra dull red, the apical third piceous; 7.5 mm. Cal.....14. **apicalis**.
- 14.—Punctuation of thorax coarse and deep, the punctures more distant from each other than their own diameter; color entirely piceous; 8 mm. Vermont.  
 15. **avulsus**.  
 Punctuation of thorax very closely placed; piceous, elytra with long humeral space dull red; 8 mm. California.....16. **Thevenetii**.
- 15.—Antennæ not extending beyond the hind angles of the thorax, the intermediate joints (4-8) not longer than wide; thorax dull red, head and elytra almost black; 7 mm. Yosemite, California.....17. **torquatus**.  
 Antennæ longer than the head and thorax, joints all longer than wide; piceous, elytra dirty yellow; 6-7.5 mm. Idaho and Wyoming.  
 18. **montanus**.\*

### Notes and Descriptions.

4. **A. fuscus** Lec.—Very variable in color. As a general rule the specimens with paler thorax are somewhat more coarsely punctured. In California an entirely ferruginous form occurs.
5. **A. ferrugineipennis** Lec.—This species is far less convex than *fuscus*, and the punctuation of the thorax is less deep and more distinct, the punctures standing well apart.
6. **A. imperfectus** n. sp.—Form parallel, piceous, sparsely clothed with pale brownish pubescence, elytra often ferruginous. Antennæ as long as the head and thorax, brownish, joints 2-3 sub-equal, each slightly shorter than the fourth, 4-10 equal serrate, 11 longer. Head very coarsely and closely punctate. Thorax

\* The following species are omitted from the table: *A. inversus* Cand. is *Sericosomus flavipennis* Motsch. *A. protractus* Horn, cannot remain in *Agriotes*, but will constitute a new genus of *Athoites*, and will be described by me in a future paper (G. H. Horn).

slightly longer than wide, parallel ♂, slightly wider posteriorly ♀, sides straight, slightly arcuate at front angles, hind angles not divergent beyond the line of the sides, carinate, disc convex very coarsely and closely punctate, lateral margin almost entirely obliterated except near the hind angles. Elytra striate, striae punctured, intervals flat, closely punctate, rugose at base. Prothorax beneath coarsely not closely punctate, shining. Metathorax and abdomen more finely and closely punctate. Hind coxal plates very little broader internally. Length 7-9 mm.

This species might be mistaken for some of the feeblar forms of *fucosus*, but the absence of the lateral margin of the thorax will distinguish it. The apical border of the thorax and its hind angles are always paler than the disc.

California, southern Coast Range.

7. **A. sparsus** n. sp.—Elongate, piceous, clothed with grayish pubescence, legs and antennae ferruginous. Antennae slender serrate from the fourth joint, joints 2-3 each shorter than joint 4, the third shorter than the second. Head coarsely sparsely punctate. Thorax one-fourth longer than wide, sides parallel, slightly arcuate near the front angles, hind angles slightly divergent, carinate, the carina close to the margin, lateral margin entirely obliterated except near the hind angles, surface sparsely punctate, the punctures not coarse, distant at the middle of the disc. Elytra striate, striae punctured, intervals slightly convex, punctured, somewhat rugose at base. Body beneath sparsely punctate, abdomen more finely, sparsely pubescent. Hind coxal plates very gradually broader internally. Length 6.5-7.5 mm.

A small slender species which might casually be mixed with *Sericosomus lateralis*.

Occurs in Oregon and Washington Territory.

10. **A. hispidus** n. sp.—Form nearly as robust as *manus*, piceous, slightly shining, sparsely clothed with brownish pubescence. Antennae brown, attaining the hind angles of the thorax, joints 2-3 equal, a little shorter than the fourth, outer joints feebly serrate. Head densely, moderately coarsely punctured. Thorax a little longer than wide, sides in front arcuate, posterior two-thirds parallel, hind angles slightly divergent, carinate, lateral margin very obtuse and indistinct, disc convex coarsely and deeply punctured, the punctures somewhat denser near the base and very much denser at the sides. Elytra more feebly striate on the disc than at the sides, the discal striae more finely punctured, intervals flat on the disc, more convex at the sides, moderately closely punctate, somewhat rugulose at base. Prothorax beneath densely punctate, the flanks more densely and opaque. Metathorax rather finely and densely punctate. Hind coxal plates rapidly broader internally, the free angle very obtuse. Length 8 mm.

The pubescence of the surface while short is erect.

One specimen ♂, Clark's Station, California.

13. **A. nevadensis** n. sp.—Piceous, sparsely clothed with pale brown pubescence. Elytra, hind angles of thorax and legs dull red. Antennae brown, as long as the head and thorax, joints 2-3 each shorter than the fourth, third a little longer than the second, 4-10 very feebly serrate. Head black, coarsely and densely punctate. Thorax very little longer than wide, sides nearly parallel, the hind

angles slightly divergent, carinate, lateral margin entire, disc convex, coarsely and closely punctate. Elytra rather feebly striate, striæ punctured, intervals flat, closely punctate, rugose at base. Prothorax beneath very densely punctate, the flanks opaque. Metathorax and abdomen finely and very closely punctulate. Hind coxal plates rapidly wider internally, the free angle rounded; 8 mm.

This species might readily be mistaken for *limosus*, but the form of the hind coxal plates and the punctuation of the prothorax beneath will distinguish it.

Western Nevada (Morrison). Cabinet of Dr. Horn.

14. **A. apicalis** n. sp.—Fusiform, piceous, opaque. Elytra dull yellow with apical fourth piceous, legs ferruginous. Antennæ piceous, not attaining the tips of the hind angles of the thorax, joints 2-11 equal, 4-10 distinctly serrate. Head densely punctate, feebly shining. Thorax longer than wide, gradually narrower to the front, sides slightly arcuate in front, posteriorly straight, the hind angles not divergent beyond the line of the sides and strongly carinate, lateral margin acute, disc moderately convex, densely punctate and opaque, sparsely clothed with short gray pubescence. Elytra gradually narrower to tip, twice as long as the thorax, striate, striæ punctured, intervals slightly convex, moderately densely punctate, slightly rugose at base, sparsely clothed with gray pubescence. Prosternum moderately closely punctate, flanks very densely punctate and opaque. Metasternum and abdomen closely punctate and finely pubescent. Hind coxal plates rapidly broader internally, the free angle very obtuse. Length 7.5 mm.

Rather more fusiform than our other species of this genus. The piceous space at the apex of the elytra extends slightly along the suture and side margin.

One specimen ♂, Yreka, California.

17. **A. torquatus** n. sp.—Form parallel, piceous. Thorax dull red, legs ferruginous. Antennæ brown, joints 2-11 equal, 4-10 distinctly serrate. Head piceous, coarsely and closely punctate. Thorax longer than wide, sides nearly parallel, slightly arcuate in front, hind angles feebly divergent, distinctly carinate, lateral margin distinct, acute, disc moderately convex, coarsely and very closely punctate, sparsely clothed with pale brown pubescence. Elytra rather deeply striate, striæ punctured, intervals slightly convex, punctate, rugose near the base, sparsely pubescent. Prothorax beneath dull red, the prosternum piceous posteriorly and not densely punctate, flanks more coarsely and densely punctate. Metasternum and abdomen more finely but not very closely punctate. Hind coxal plates rather abruptly dilated internally the free angle obtuse. Length 7 mm.

This species resembles in form and color some of the smaller varieties of *Corymbites conjungens*.

Yosemite Valley, California.

18. **A. montanus** n. sp.—Form robust, piceous, elytra luteous, legs yellowish brown. Antennæ yellowish brown not attaining the hind angles of the thorax, joints 2-11 equal, 4-10 feebly serrate. Head coarsely and deeply punctate. Thorax a little longer than wide, sides parallel, slightly arcuate at the front angles, hind angles carinate, not divergent, lateral margin distinct, disc moderately convex, coarsely, closely and equally punctate, very sparsely pubescent, general color pice-

ous, apical border and hind angles paler. Elytra barely twice as long as the thorax, sides somewhat arcuate, striate, striae punctured, intervals slightly convex and rather rugosely punctate, sparsely pubescent. Prothorax beneath coarsely, not closely punctate. Metasternum and abdomen more finely and densely punctate. Hind coxal plates abruptly broader internally, the free angle nearly rectangular. Length 6-7.5 mm.

A rather small species with the general form of *Monocrepidius auritus*. Occurs in Idaho and Wyoming.

## Bibliography.

### AGRIOTES, Esch.

1. *A. mancus* Say Journ. Acad. iii, p. 171; Lec. Trans. Am. Phil. Soc. x, p. 455; Cand. Elat. iv, p. 388; *obesus* Harris, Ins. inj. to veg. ii, p. 49; *striatulus* Mels. Proc. Acad. ii, p. 217; *truncatus* Mels. loc. cit.
2. *A. stabilis* Lec. loc. cit. p. 457; Cand. loc. cit. p. 457; Cand. loc. cit. p. 376.
3. *A. insanus* Cand. loc. cit. p. 376; *sordidus* Lec. loc. cit. p. 457.
4. *A. fucosus* Lec. loc. cit. p. 456; Cand. loc. cit. p. 375; *collaris* Lec. loc. cit. p. 456; Cand. loc. cit. p. 374.
5. *A. ferrugineipennis* Lec. Proc. Acad. 1861, p. 348.
6. *A. imperfectus* Lec. supra.
7. *A. sparsus* Lec. supra.
8. *A. pubescens* Mels. loc. cit. p. 217; Lec. loc. cit. p. 457; Cand. loc. cit. p. 377.
9. *A. limosus* Lec. loc. cit. 457; Cand. loc. cit. p. 378.
10. *A. hispidus* Lec. supra.
11. *A. opaculus* Lec. Proc. Acad. 1859, p. 385.
12. *A. oblongicollis* Mels. loc. cit. p. 218; Lec. loc. cit. p. 218; Lec. loc. cit. p. 456; Cand. loc. cit. p. 402; *isabellinus* Mels. loc. cit.
13. *A. nevadensis* Lec. supra.
14. *A. apicalis* Lec. supra.
15. *A. avulsus* Lec. loc. cit. p. 457; Cand. loc. cit. p. 403.
16. *A. Thevenetii* Horn, Trans. Am. Ent. Soc. iv, 1872, p. 148.
17. *A. torquatus* Lec. supra.
18. *A. montanus* Lec. supra.

### DOLOPIUS Esch.

While preparing the species of *Agriotes* for publication finding in the same box a very large series of *Dolopius lateralis* with all variations, I have found that *D. macer* Lec. cannot be retained as distinct. It is more slender than the majority of the other *D. lateralis*, and entirely piceous, but either character is observed in the series, so that they have no value in specific definition.

*D. simplex* Motsch. is one of the bicolored forms of *lateralis* so common in California (G. H. Horn).

**PYROPYGA** Motsch.

**P. simplex.**—Elongate-oval, entirely black. Prothorax broadly flattened and slightly punctured at sides and tip, flattened part reflexed; disc alutaceous with very indistinct dorsal line. Antennæ with the joints 3-11 equal in length. Light-organs entirely wanting. Length 8 mm.

Arizona, one pair Mr. Morrison. Rather broader than *P. nigricans* with the sides of the elytra more widely flattened.

**LAMPROHIZA** Motsch.

**L. Riversi.**—Front wide, eyes moderate in size, convex. Antennæ 11-jointed, 1st and 2d joints equal, together as long as the 3d, the following ones are equal in length, but gradually narrower. Abdominal segments strongly lobed at the sides, last dorsal of male truncate and broadly emarginate. Prothorax with two small transparent spots near the tip; rather strongly punctured, sides opaque, broadly flattened and reflexed; disc shining, uneven, sub-carinate. The last two ventral segments are yellowish, but dull, so that they may or may not be light-organs. Body above black, prothorax dull reddish yellow, with a black dorsal spot from the middle to the base. Last dorsal segments piceous, dull testaceous at the sides, last two ventrals yellow. Elytra strongly scabrous-punctured. Length 4.5 mm.

One male Sonoma Co., Cal., Mr. J. J. Rivers, of the University of California, to whom I dedicate it in recognition of his promotion of Scientific interests on the Pacific coast.

This insect greatly resembles *L. inaccensa*, but is narrower.

**MICROPHOTUS** Lec.

**M. angustus** Lec. A female of this species, undistinguishable from those collected in Colorado, Oregon and California, was found by Mr. Hubbard at Hillsboro', Fla.

**PLEOTOMUS** Lec.

**P. nigripennis.**—Of the same form and sculpture as *P. pallens*, but of a bright orange color. Prothorax a little longer with the apex less obtusely rounded. Elytra black. Length 13 mm.

One male, Arizona, Mr. Morrison.

**SPATHIZUS** Lec. n. g. Lampyridæ.

*Male.*—Antennæ three fourths as long as the body; joints 3-11 each furnished with a long flat process, the outer ones being longer, and narrowed at base; 11th similar to the process of the 10th. Head as broad as the prothorax, eyes moderate convex; maxillary palpi with the last joint pointed, as long as the preceding. Prothorax quadrate, margined at the sides from base to tip. Elytra dehiscent, narrow and rounded at apex, scabrous-punctured. Legs short, claws divaricate small, broader at base. Sixth ventral broadly emarginate, genital segment small, and prominent, slightly narrower at base; last dorsal truncate and emarginate.

This genus is intermediate between *Cenophengus* and *Tytthonyx*, but differs from both by the third joint of the antennæ having a process. The gular sutures are confluent behind the mouth, and the triangular space is deeply concave, as in other *Phengodini*.

**S. bicolor.**—Black, prothorax and under surface bright reddish yellow; mouth and sides of head behind the eyes testaceous. Head densely punctulate; prothorax alutaceous, margined at sides and less strongly at base of apex; disc channeled. Elytra not densely but coarsely punctured, with a strong discoidal costa and a shorter one nearer the suture. Length 7.5 mm.

Several males were collected in Arizona by Mr. Morrison.

#### **TELEPHORUS** DeGeer.

**T. costipennis.**—Black, prothorax yellow, with a broad dorsal vitta, which is angularly dilated just behind the middle. Elytra very coarsely punctured with a well-marked discoidal costa and a shorter one nearer the suture; mouth sometimes tinged with testaceous. Length 6 mm.

Florida, Messrs. Hubbard and Schwarz. Quite similar to *T. lineola*, and differs only by the more coarsely sculptured and costate elytra.

#### **POLEMIUS** Lec.

**P. princeps.**—Black, head smooth, front whitish yellow. Prothorax smooth, shining, broader than long, nearly truncate at base, sides broadly reflexed, rounded into the apex with the front angles obliterated, hind angles rectangular; pale red, with a black dorsal vitta not quite attaining base or apex, deeply nicked at the sides about one-third from the hind angles. Elytra finely scabrous and pubescent, margined with testaceous along the sides. Length 14 mm.

Arizona, one male.

**P. strenuus.**—Similar to the preceding, but the black dorsal vitta is strongly dilated in front of the base, and the elytra are not margined with yellow. Length 9 mm.

One female, Arizona, Mr. Morrison. The prothorax is twice as wide as long and rounded on the sides into the apex; they are more narrowly reflexed than in *P. princeps*, and as is the case in all females, not nicked. The elytra are somewhat dilated behind the humeri in both, and the usual three faint costæ are quite apparent.

**P. marginicollis.**—Black, head smooth, mouth whitish. Prothorax trapezoidal hind angles rectangular, front ones rounded, sides nearly straight, apex broadly rounded; smooth, pale yellow, with a broad dorsal vitta attaining the tip and to the narrow basal margin, broader in front of the base, sides reflexed, edged with black. Elytra scabrous-punctured, slightly dilated behind the humeri, with the costæ very feeble. Length 7 mm.

One female, New Mexico; Mr. Ulke. These three species have the antennæ feebly serrate.

**SILIS** Charp.

**S. atra.**—Entirely black, prothorax lobed at base and deeply foveate, ante-basal excavation deep, hind angles prolonged and carinate, appendage straight, front angle of excavation rectangular. Antennæ as long as the body, third joint as long as the fourth. Length 5 mm.

One male, Washington Territory. Resembles *S. cava*, but differs by the longer hind angles of prothorax and by the uniform black color.

**MALTHODES** Kies.

**M. bicolor.**—Black, head and prothorax red; the former wider than prothorax, eyes very convex and prominent. Prothorax wider than long, narrowly margined. Elytra with punctures arranged nearly in rows, two-thirds as long as the elytra. Length 5 mm.

One female, Arizona; the 2d and 3d joints of the antennæ are equal, each a little shorter than the 4th. The head and prothorax are not punctured, the former opaque, the latter shining, not channeled. By the form and sculpture of the prothorax this species seems intermediate between *Malthinus* and *Malthodes*.

**HYDROCERA** Newm.

**H. longa.**—Greenish black, pubescence long, erect, gray; mouth, antennæ, front legs, middle tibiæ and tarsi, and hind tarsi testaceous. Elytra dark blue, strongly punctured, becoming granulate near the tips, which are separately rounded and distinctly serrate. Prothorax longer than wide, anterior constriction well defined, sides broadly and obtusely dilated. Length 6-7 mm.

Arizona, several specimens were collected by Mr. Morrison.

**THECA** Muls.

**T. striatopunctata.**—Oval, convex, dull black, pubescent with erect gray hairs. Prothorax obliquely narrowed from the base, punctures of the disc with sparse shallow punctures becoming weaker at the sides. Elytra with strongly punctured striæ. Antennæ ferruginous. Length 2 mm.

California, one specimen. Of the same size and form as *T. profunda*, but differs by the strongly punctured elytral striæ and less punctured prothorax.

**PHYMATODES** Muls.

**P. ater.**—Black, very sparsely and finely pubescent. Head punctured; prothorax one-half wider than long, strongly punctured, much rounded on the sides. Elytra strongly and equably punctured. Antennæ and legs tinged with piceous. Length 6.5 mm.

One female collected at Buffalo, N. Y., and kindly given to me by Mr. F. Zesch. The antennæ are slender and about two-thirds as long as the body.

**CRIPROSOPUS** Serv.

**C. lateralis.**—Black, clothed above and beneath with fine, erect, ashy pubescence. Beneath finely, above deeply and coarsely punctured. Prothorax

strongly angulated at the sides behind the middle, then concavely narrowed to the base; sides with a broad orange border. Scutel narrow, acute, black. Elytra with narrow side margin and broad transverse fascia, at the first fourth of the length bright orange. Antennæ as long as the body. Mesosternum suddenly declivous in front. Length 11 mm.

One specimen, Bosque Co., Texas; Mr. Belfrage. This is the smallest *Trachyderide* known to me.

### **PURPURICENUS** Serv.

**P. dimidiatus.**—Black, opaque, densely and coarsely punctured, disc of prothorax red, with a small dorsal callus, edges black. Elytra with the anterior half red, basal margin black. Length 18 mm.

One female collected at Yreka, Cala., and kindly presented to me by Mr. Duenkel; the antennæ are shorter than the body and not at all serrate. The coarser and denser punctuation, and different coloration will enable this species to be readily recognized; it is much more Western in its habitat than the other species of the genus.

### **OXOPLUS** Lec.

**O. marginatus** Lec.—A small female of this species (14 mm.) agrees perfectly with the large males from Lower California; the antennæ are a little shorter than the body; this would indicate that *O. corallinus* in which the antennæ are comparatively shorter, and distinctly though not strongly serrate, must be retained for the present as a separate species.

### **CROSSIDIUS** Lec.

**C. discoideus** (Say). This species extends into Idaho and Ariz.

### **PTEROPLATUS** Serv.

**P. divisus.**—Ferruginous, antennæ, tarsi, tip of middle and whole hind tibiæ, abdomen and posterior half of elytra black. Prothorax strongly punctured, disc flattened, sides with a well defined elliptical impression of a darker tinge. Elytra cylindrical, orange colored deeply punctured, hinder half black, limited by an oblique line running backwards from the suture. Length 9 mm.

Dallas, Texas; Bolles. The elytra have four costæ, and in form, size and sculpture, this insect is precisely similar to *P. floridanus*. The hairs are very few and short.

**P. rufipennis.**—Black, elytra reddish yellow, densely punctured, quadricostate, wider behind, and flattened on the disc. Prothorax as long as wide, sericeous, densely punctured, disc flattened, ornamented with two red vittæ, sides impressed as usual, sub-angulated behind the middle. Head with a medial red vitta extending into the mouth. Length 11–13 mm.

Arizona, Mr. Morrison. The antennæ are half as long as the body and serrate in two specimens before me, one of which was collected near Las Vegas, N. Mex.



**P. apicalis.**—Scarlet, tarsi and antennæ black, first joint of the latter and scutell brown-red. Elytra sculptured as in the preceding, apical fourth black. Prothorax as in the preceding but angulated at the middle. Length 11–17 mm.

Arizona; many specimens were collected by Mr. Morrison. The antennæ of the female are half as long, those of the male three-fourths as long as the body, more strongly serrate in the former, the pubescence is short but dense in this as in the preceding and next species; they may be only color varieties of one form, but the differences parallel those of certain *Lygidæ* so perfectly that I am disposed for the present to view them as distinct.\*

**P. ignitus.**—Scarlet, sericeous pubescent. Antennæ, tarsi and tips of middle and hind tibiæ black. Metasternum and abdomen more or less piceous. Length 11–13 mm.

Arizona, found abundantly by Mr. Morrison. I have only females.

### LIOPUS Serv.

**L. centralis.**—Rather stout in form, like *L. crassulus*, densely covered with short pale gray prostrate hair mottled with dark spots more conspicuously than in that species; sides of prothorax oblique in front of the spine which is strong, acute and situate just behind the middle. Elytra with small tufts of black scales; there is a common rounded sutural spot behind the middle and a lateral one in front of the middle, there is also a small black spot near the scutell, which is dark, and two clouds near the side behind the middle. Length 6.5 mm.

Arizona, one specimen.

### LEMA Fabr.

**L. balteata.**—Shining, black, abdomen and transverse band at the middle of the elytra bright rufous. Elytra bluish, the punctures of the rows are deep, but well separated. Length 6 mm.

Arizona, Mr. Morrison. Looks like *L. solani*, but is quite different by coloration and less approximate elytral punctures.

**L. concolor.**—Black with a greenish tinge. Prothorax a little longer than wide, sparsely punctured, constriction less abrupt than in *L. peninsulae*, sides much less rounded before. Elytra with striæ composed of approximate deep but not coarse punctures. Length 4 mm.

Las Vegas, N. Mex., Prof. F. H. Snow; one specimen. Similar to *L. cornuta*, but differs by coloration, and by the elytral striæ less close, and composed of smaller punctures; the striæ are not fainter behind. The head has a deep puncture on the vertex.

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\* As remarked by Dr. LeConte it is doubtful whether *rufipennis* and *ignitus* are not color varieties of one species. At all events *rufipennis* should be compared with *Elytroleptus Alfredi* Dugès, La Naturelle, v, p. 185, no mention of which is made by Mr. H. W. Bates in the Biologia Cent. Am. It is possible that *Alfredi* and *rufipennis* are varieties of *Pteroplatus pallidus* Thoms. (G. H. Horn)

**COSCINOPTERA** Lac.

**C. dorsalis.**—Black, clothed with prostrate white hair, which is shorter and denser on the under surface. Prothorax densely not coarsely punctured, with a broad smooth dorsal stripe. Elytra more strongly punctured than the thorax, and with no trace of striae. Length 5 mm.

One specimen, Arizona.

As stout as *C. dominicana*, but much more hairy with a very conspicuous dorsal vitta.

**C. bifaria.**—More cylindrical, of the same form as *C. axillaris* densely punctured, clothed with prostrate white hair shorter and denser on the under surface. Prothorax without smooth dorsal line. Elytra with very faint traces of striae here and there among the punctuation; there is a small marginal red spot at the humeri. Length 4.5 mm.

One specimen, Arizona. The punctures of the elytra are distinctly of two sizes, the larger ones having a tendency to form rows; the prothorax is densely but less strongly punctured.

**C. canella.**—Black, of the same form and sculpture as the preceding but the humeral red spot is larger and quadrate, as in *C. axillaris*. It is, however, distinguished by the different punctuation of the elytra, which is not of uniform size. Length 5 mm.

Southern California; not rare.

**C. vittigera** Lec. A variety having the elytra marked with a large red humeral spot instead of a long stripe.

Occurs in Colorado and Arizona.

**EURYSKOPE** Lac.

**Eu. vittata.**—Specimens of this species were collected in Arizona by Mr. Morrison, in which the red color is not prolonged forming a broad vitta, but cut off about the front third; the humeral callus is dark. They thus resemble *Eu. Lecontei* Cr., but the prothorax is much more finely punctured.

**Eu. Lecontei** Caotch. A small specimen of this species was found in Southern California by Hardy which has only a very small red marginal spot at the humeri.

**SAXINIS** Lac.

**S. apicalis.**—Blackish blue, with white pubescence beneath. Prothorax convex, finely but deeply punctured, basal lobe broadly feebly produced, margined as usual. Elytra with a humeral red spot and another rounded one near the tip; punctured in rows, interstitial spaces sparsely punctulate, epipleural lobe large, obtusely angulated. Length 6 mm.

Arizona, Mr. Morrison. Cylindrical, like *S. omogera*, but much larger, and with the epipleural lobe of a different form.

**TRICHOTHECA** Baly.

**T. vagans.**—Brown, pubescent, with coarse hair of a grayish color, densely punctured. Elytral punctures stronger, arranged in closely approximate rows. Antennæ testaceous, darker towards the tip. Length 5 mm.

Texas; one specimen collected by Belfrage. This insect is undistinguishable from our common *Xanthonia* except by the larger size and thicker front thighs, which are armed with a large tooth. This is another instance of remarkable geographical distribution; the single species previously known occurs in Northern India.

**GRAPHOPS** Lec.

This genus includes those species, which, unaware of the previous use of the name by Blanchard, I had grouped as *Heteraspis* (Coleopt. Kansas and New Mexico, 23). It seems allied to the Malaysian *Scelodonta*, but differs by the thighs having no tooth, and by the slender tibiæ. The characters are in the surface being pubescent, and the head having two deep impressed lines connected in front between the antennæ running obliquely backwards and curving around the upper and back margin of the eyes; there is also a medial line more or less impressed; in *Metachroma* the lines are in front of the antennæ, and are sometimes united between their insertions by a transverse line. The prosternum has a straight outline beneath; the claws are variable in form and afford a convenient basis for the separation of the species. The following table expresses the relation between the species:

- |  |                    |
|--|--------------------|
| Prothorax feebly margined at base; clypeus emarginate. ....  | 2.                 |
| Prothorax strongly margined at base.....   | 3.                 |
| 2.—Prothorax finely and densely punctured, elytra punctulate, with striæ of small approximate punctures, becoming obsolete behind; color green, pubescence coarse. Length 5 mm. Kansas.....  | <b>beryllinus.</b> |
| Prothorax strongly and densely punctured, elytra alutaceous, striæ small, approximate, punctures becoming obsolete behind; form more elongate, color blackish green, pubescence coarse. Length 4 mm. Colorado..                                      | <b>obscurus.</b>   |
| Form of beryllinus, prothorax less densely punctured; elytra punctulate, striæ composed of larger, less approximate punctures becoming obsolete behind; color coppery, green, or even blackish. Length 4-4.5 mm. Illinois, Texas, Kansas.....        | <b>varians.</b>    |
| 3.—Clypeus truncate; pubescence coarse.....  | 4.                 |
| Clypeus emarginate.....  | 5.                 |
| 4.—Coppery, thinly pubescent; head strongly punctured, alutaceous, prothorax punctured, at the sides rugose; elytra punctulate, striæ composed of distant larger ones, obsolete behind, sometimes indistinct. Length 4 mm. Middle States; Texas..... | <b>pubescens.</b>  |
| Bronze or coppery, thinly pubescent; stouter and smaller than pubescens, the thorax is rugosely punctured over the whole disc, and the elytra are punc-  |                    |

tulate with very obsolete rows of larger ones. Length 2.5 mm. New York to Texas and Florida ..... **curtipennis**.

- 5.—Coppery, thinly clothed with white hair; head and prothorax punctured not rugose; elytra punctulate, striæ composed of distant larger punctures; form as in *curtipennis*. Length 2.5 mm. Middle and Southern States.

**marcassitus.**

Coppery, or green, thinly clothed with very short white erect pubescence; head alutaceous, sparsely, prothorax more densely punctured; elytra uniformly punctured, striæ obsolete, indicated only by the short hairs being arranged in rows. Length 3–4 mm. Texas..... **simplex**.

Elongate, green or coppery, thinly clothed with long coarse white hair; head feebly, prothorax irregularly punctured, with indistinct smooth spots; elytra punctulate, striæ composed of conspicuously larger distant punctures. Length 4 mm. Colorado..... **nebulosus**.

### Bibliography.

1. **G. pubescens** Mels (Heteraspis). Pr. Acad. Nat. Sci. Phil. iii, 169; Crotch, *ibid.* 1873, 34.
5. **G. curtipennis** Mels (Heteraspis). *ibid.* iii, 169; Crotch, l. c., 35.
6. **G. marcassitus** Crotch, *ibid.* 35. I have excluded the basal margin of the elytra mentioned by Crotch, as well as the unguar tooth from the specific characters, as leading to illusive results.
7. **G. simplex**. The elytra are punctured as in *Xanthonia*.
8. **G. nebulosus** Lec. Coleoptera of Kansas, etc., 23; *smaragdulus* Lec. *ibid.* 24. This species has the same form as *G. varians*, but differs by the irregularly punctured prothorax being more strongly margined at the base. The pubescence is partly abraded, giving a nebulous appearance, as is often the case in other species.

### COLASPIS Fabr.

**C. arizonæ** Crotch, l. c., 45. This species varies greatly in the color of the elytra; in the specimen described they are entirely red, but usually they are of a dark metallic green color, with the entire border red, and transverse band at the first fourth extending from the suture nearly to the side border.

### LUPERUS Oliv.

**L. maculicollis**.—Greenish black; prothorax orange, shining, obsoletely punctulate, finely margined, slightly rounded on the sides with a long black dorsal spot and a smaller lateral one. Elytra shining blue, finely punctured, with slight traces of striæ. Antennæ fuscous, lower joints and mouth testaceous. Length 6–7 mm.

San Diego, Cala.; found abundantly by Mr. O. N. Sanford. The antennæ are half as long as the body in both sexes; the last ventral is impressed in the male. The lateral thoracic spots are frequently reduced to mere dusky clouds; there are no discoidal impressions.

**L. varicornis** Lec.—This pale colored little species varies in the color of the antennæ, which are sometimes entirely black, sometimes wholly pale.

Occurs in Kansas, Texas and Arizona, and is often an injury to vegetation.

**L. torquatus**.—Black, prothorax slightly wider than long, very slightly rounded on the sides, bright yellow, distinctly punctulate. Elytra blue, finely and deeply punctured. Length 3 mm.

San Mateo and Mariposa, Cala., Mr. Crotch and Mr. Thevenet.

#### PHYLLOBROTICA Redt.

**P. livida**.—Dirty dull yellow. Antennæ, except at base, and metasternum fuscous. Prothorax wider than long scarcely punctulate, very slightly rounded on the sides. Elytra alutaceous, punctulate. Length 7 mm.

Arizona, Mr. Morrison. The third joint of the antennæ is a little longer than the second but shorter than the third.

#### PHYLLECTHRUS Lec.

**P. texanus**.—Bright yellow, shining, smooth. Elytra black, with the sides narrowly bordered with yellow. Antennæ fuscous, 10-jointed in the male. Length 3 mm.

Texas. Belfrage; the prothorax has a vague transverse discoidal impression as usual; it resembles *P. gentilis* and *nigripennis*, but differs in the coloration.

#### ANDROLYPERUS Crotch.

**A. maculatus**.—Scarlet, smooth, head, antennæ, legs, meso- and metasternum, scutel, and two spots on each elytron black. Length 8 mm.

San Diego, Cala. This species is briefly characterized on p. 349 of Class. Col. N. Am. (2d ed.) The last abdominal segment is also black, and is broadly foveate in the male. The elytra in that sex are deeply impressed, crumpled and nicked at the edge about one-fifth the length from the apex.

#### AGELASTICA Redt.

**A. bicolor**.—Bright ferruginous, shining. Head, smooth, with a fine transverse line and two flattened elevations between the eyes; in front of these is a deep angulated line, the clypeus is foveate. Prothorax twice as wide as long, smooth, convex, finely margined and rounded at the sides. Elytra broad, convex, finely punctulate, shining black. Antennæ fuscous, base testaceous. Length 5.5 mm.

One specimen given me by Mr. Bolter, as found at Fort Yuma, Ariz. Very robust and inflated in form, like the European species. The last ventral is marked with a large deep circular impression.

#### GALERUCA Oliv.

**G. erosa**.—Dull yellow, finely pubescent. Head strongly densely punctured, prothorax cribrate. Elytra finely very densely punctured; outer joints of antennæ and the tarsi fuscous. Length 8 mm.

Utah; quite different from our other species by the coarsely sculptured thorax, which has also four shallow discoidal impressions. The third joint of the antennæ is a little longer than the fourth, whereby it differs from *Trirhabda*, which it greatly resembles in form.

### **HYPOLAMPSIS** Clark.

**H. guttatus.**—Fuscous, densely clothed with fine short pubescence, legs and elytra paler, the latter are twice as wide as the prothorax, impressed behind the base; striae well impressed finely punctured, each with three dark spots, the first and third near the suture. Prothorax a little wider than long, alutaceous. Length 2 mm.

Louisiana, Mr. A. C. Reisig; easily distinguished from *H. Mellyi* by the wider, spotted elytra.

### **CAEPORIS** Clark.

**C. nanula.**—Greenish or bluish, bronzed. Antennæ and legs fusco-testaceous, the former with a very deep transverse impression near the base, the latter finely but strongly punctured. Length 1-5 mm.

South Carolina, Zimmermann; Texas, Schwarz. To this genus is also referable *Haltica Burgessi* Crotch. They resemble, in miniature, *Haltica* (Graptodera).

### **DIRCÆA** Muls.

**D. Riversi.**—Cuneiform, less arched than usual, piceous, very finely and densely punctulate, finely inconspicuously pubescent. Head convex, not impressed. Prothorax as long as wide, narrowed almost from the base to the apex, which is only half as wide as the base; sides not strongly rounded, hind angles rectangular not sharply defined, base scarcely sinuate, feebly depressed transversely in front of the base. Elytra not striate, with faint traces of two or three obsolete elevated lines. Beneath colored and punctured as above; last joint as long as the two preceding, but not much wider; third antennal joint as long as the two preceding, slightly shorter than the fourth. Length 11 mm.

Collected at Sylvania, Sonoma Co., Cal., by Messrs. Rivers and Ricksecker, in a decayed Madrone stump. This is the first appearance of the group *Dircæa* on our Pacific slope.

### **ACRISIUS** Desbr.

On further examination of the insect which I referred to this genus (Class. Col. 473), it seems to be distinct by the 3d and 4th ventral segments being of usual length. I cannot say at present to what genus it should be placed.

### **PACHYLOBIUS** Lec.

**P. picivorus** Germ. A typical specimen from the Dejeanian collection kindly sent me by Mr. Roelofs shows that *Hylobius stupidus* Boh. is the same species.

**HYLOBIUS** Sch.

A typical specimen from Mr. Roelofs of *H. assimilis* proves it to be not distinct from *H. pales* Herbst.

**ERODISCUS** Sch.

**E. tinamus.**—Shining black, with a few long erect white hairs. Head smooth, beak extending to the third ventral segment. Prothorax uniformly deeply and sparsely punctured, very convex in front, tubularly constricted at the base. Elytra very convex, elongate-oval, not wider than the prothorax, with rows of deep, distant punctures; tip rounded; thighs armed with a small tooth. Length 4–6 mm.

Florida, Mr. H. G. Hubbard; two specimens.

**CHALCODERMUS** Sch.

**C. spinifer** Boh. Specimens of this species collected in Arizona by Mr. Morrison have on each elytron two rather large spots of pale pubescence and the prothorax is somewhat more finely punctured than in the one found in Florida by Mr. Hubbard.

**ACALLES** Sch.

**A. costifer.**—Black, covered with black appressed scales and very short bristles. Prothorax as long as wide, strongly punctured, finely carinate, rounded on the sides, bisinuate at base, hind angles nearly rectangular, disc with four small dots of white pubescence placed transversely at the middle, and one at the base near the scutellum. Elytra elongate-oval, humeri well defined, striae composed as usual of quadrate punctures, 5th interspace elevated from behind the base to about one-sixth from the tip; sides slightly rounded, sinuate near the tip and more rapidly narrowed; a few white dots are seen in the posterior third, and are more numerous in the middle third, where they form a diffused irregular transverse band. Length 4–5 mm.

Columbus, Texas; one specimen; Mr. Schwarz. Allied to *A. carinatus*, but quite distinct by the narrower form; elytra not wider than thorax, and the 5th interspace strongly elevated suddenly dropping at one-fifth from the tip; also by the outline of the elytra, which is more gradually oblique and more sinuate behind the middle.

**A. sulcicollis.**—Very small, elongate, black, clothed with thick dark-brown scales, with rows of short pale bristles on the elytra. Prothorax wider than long, rounded on the sides, disc clathrate with very large punctures, with three narrow dorsal ridges and well defined grooves which limit them. Elytra not wider than thorax, elongate-oval regularly rounded on the sides, humeri obtuse; a narrow transverse band of pale scales is seen at the 2d third of the elytra, and the general surface is slightly clouded with brown. Length 2 mm.

Columbus, Texas; one specimen, Mr. Schwarz. Similar in appearance to *A. longulus*, but easily distinguished by the peculiar sculpture of the prothorax.

**PSEUDOMUS** Sch.

**P. inflatus.**—Broadly oval, convex, narrowed at each end, with a thin covering of brown sub-metallic prostrate scales, which are denser, forming a lunate transverse spot behind the middle of the elytra. Head punctured, beak rugose and punctured at base, nearly smooth at tip. Prothorax equally strongly punctured above and beneath, without dorsal line. Elytra with striæ composed of approximate quadrate punctures. Legs strongly punctured, thinly squamose, front thighs acutely toothed, hinder ones with a very obtuse angle. Length 4 mm.

Cape Jupiter, Fla.; one pair, Mr. Hubbard. Easily recognized by the inflated form and nearly uniform color. The claws are connate nearly to the tip.

**CRYPTORHYNCHUS** Ill.

**C. lutosus.**—Oblong, black, clothed with depressed dirt-colored scales and a few short stout bristles intermixed. Prothorax a little longer than wide, not carinate, sides parallel behind the middle, then obliquely rounded to the apex, near which there is a slight constriction, disc prolonged above, post-ocular moderate. Elytra one-half wider than the thorax at base, sides parallel rounded behind, striæ composed of large distant punctures, interspaces flat, humeri obtuse, prominent, with an intra-humeral impression, ante-apical elevation distinct, apex concave; thighs armed with an acute tooth. Length 6 mm.

Cape Jupiter, Fla.; Mr. Hubbard, one specimen. Quite distinct from all others in our fauna; to be placed after *C. obliquus* Say.

**C. brachialis.**—Oblong-oval, black, clothed with white and ochreous depressed scales with nebulae of dark brown, of which only a scutellar spot is distinctly defined; there are no intermixed bristles. Prothorax not wider than long, not carinate, sides rounded behind, then oblique to the apex, near which they are strongly constricted. Elytra but little wider than the thorax at base, humeri well defined, sides parallel, rounded behind; striæ composed of large quadrate punctures; the five outer interspaces are narrow and acutely elevated. Legs long and slender, thighs armed with one tooth; front thighs of male extending much beyond the head. Length 4.5–8 mm.

Columbus, Texas; found abundantly on Black Gum twigs.

**LEMBODES** Sch.

**L. solitarius** Boh. Sch. Curc. VIII, i, 437. A specimen which agrees fully with the description was collected at Cape Jupiter, Fla., and kindly given me by Mr. Hubbard.

**ZYGOPS** Sch.

**Z. seminiveus.**—Black, base of beak, sides of prothorax, mottlings of elytra and whole under surface clothed with white scales; flanks of prothorax and last ventral segment with a black spot each side; pygidium white with a transverse black band. Prothorax narrowed and feebly rounded on the sides from the base forwards transversely impressed near the apex, densely punctured, finely carinate; scutel transverse trapezoidal, truncate behind, where it is widest. Elytra with punctured striæ, the inner ones being finer, 5th interspace convex, with a row



of small tubercles; the mottlings are a small spot at the side of the scutel, a short sutural line behind the scutel connected about the middle with a narrow irregular band, another narrow more interrupted band behind the middle, and numerous dots; legs in greater part covered with white scales, thighs toothed. Length 7-9 mm.

Arizona, not rare.

### **TACHYGONUS** Sch.

**T. tardipes** Lec. A variety of this species with the elytra black and the inner half of the hind thighs testaceous was collected abundantly by Mr. Morrison in Arizona.

### **TOXOTROPIS** Lec.

**T. pusilla** Lec. Specimens collected in Texas by Mr. Schwarz vary much in markings; one is black with an inverted T-formed white mark near the base of the elytra; others are as pubescent as *Brachytarsus variegatus* and not unlike it in appearance.

**T. fasciatus**.—Of the same size and form as the preceding, black densely clothed with cinereous pubescence. Elytra with a broad black transverse band. Antennæ, tibiæ and tarsi testaceous. Length 1-5 mm.

Columbus, Texas; Mr. Schwarz.

### **CHORAGUS** Kirby.

**C. nitens**.—Oval, convex, shining piceous. Prothorax finely punctured. Elytra with the striæ fine, distinctly punctured. Length 1 mm.

Tyngsboro', Mass.; one specimen kindly given me by Mr. F. Blanchard. Quite different from the other three species in our fauna by the shining surface and smaller size.

### **XENORCHESTES** Woll.

**X. americanus** Motsch. This singular insect has been found by Hubbard in Florida, and by Schwarz at Columbus, Texas.

